AMENDMENTS TO THE CLAIMS

1. (Currently amended) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region,

wherein:

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface of the first layer has a dielectric function that varies spatially according to a pattern;

the pattern has ~~an ideal~~ lattice constant and a detuning parameter with a value greater than zero; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

2. (Original) The light-emitting system of claim 1, wherein the light-emitting system is selected from the group consisting of projectors, portable electronic devices, computer monitors, large area signage systems, vehicle lighting systems, general lighting systems, high brightness lighting systems, camera flashes, medical devices, telecommunications systems, security sensing systems, integrated optoelectronic systems, military field communication systems, biosensing systems, photodynamic therapy systems, night-vision goggles, solar powered transit lighting systems, emergency lighting systems, airport runway lighting systems, airline lighting systems, surgical goggles, wearable light sources and combinations thereof.

3. (Original) The light-emitting system of claim 1, wherein the light-emitting system is a projector.

4. (Original) The light-emitting system of claim 3, wherein the projector is a rear projection projector.

5. (Currently amended) The light-emitting system of claim 4, wherein the rear projection projector is ~~a rear projection projector~~configured for a television.

6. (Original) The light-emitting system of claim 3, wherein the projector is a front projection projector.

7. (Original) The light-emitting system of claim 1, wherein the light-emitting system is a vehicle lighting system.

8. (Original) The light-emitting system of claim 1, wherein the light-emitting system is a general lighting system.

9. (Currently amended) The light-emitting system of claim 1, wherein the light-emitting system includes a plurality of light-emitting devices, each of the plurality of light emitting device comprisinges:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region,

wherein, for each of the plurality of light-emitting devices:

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface of the first layer has a dielectric function that varies spatially according to a pattern;

the pattern has a~~n ideal~~ lattice constant and a detuning parameter with a value greater than zero; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

10. (Original) The light-emitting system of claim 9, wherein the plurality of light-emitting devices are configured as an array.

11. (Original) The light-emitting system of claim 10, wherein the light-emitting system includes a plurality of arrays of light-emitting devices.

12. (Original) The light-emitting system of claim 1, wherein:

the light-emitting device has a housing with a surface;

the light-emitting device is disposed in the housing; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

13. (Original) The light-emitting system of claim 1, wherein, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light passes through at least one optical component before emerging from the light-emitting system.

14. (Original) The light-emitting system of claim 1, wherein the light-emitting system includes a plurality of light-emitting devices, at least some of the light-emitting devices having different peak emission wavelengths.

15. (Original) The light-emitting system of claim 1, wherein the light-emitting system includes a plurality of light-emitting devices, each of the light-emitting devices having substantially the same peak emission wavelength.

16. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region,

wherein:

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface has a dielectric function that varies spatially according to a nonperiodic pattern; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

17. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region,

wherein:

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface has a dielectric function that varies spatially according to a complex periodic pattern; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

18. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a layer of n-doped material, a layer of p-doped material, and a light-generating region; and

a layer of reflective material that is capable of reflecting at least about 50% of light generated by the light-generating region that impinges on the layer of reflective material,

wherein:

a surface of the layer of n-doped material is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the layer of n-doped material;

the surface of the layer of n-doped material has a dielectric function that varies spatially according to a pattern;

a distance between the layer of p-doped material and the layer of reflective material is less than a distance between the layer of n-doped material and the layer of reflective material; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the n-doped layer, the light can emerge from the light-emitting system.

19. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region, a surface of the first layer being configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer, and the surface of the first layer has a dielectric function that varies spatially according to a pattern; and

a layer of reflective material that is capable of reflecting at least about 50% of light generated by the light-generating region that impinges on the layer of reflective material,

wherein:

the light-generating region is between the layer of reflective material and the first layer;

the pattern does not extend beyond the first layer; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

20. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region, and a first layer supported by the light-generating region, a surface of the first layer being configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer; and

a material in contact with the surface of the first layer, the material having an index of refraction less than about 1.5,

wherein the light emitting device is packaged, and the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

21. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region, a surface of the first layer being configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface

of the first layer, the surface of the first layer having a dielectric function that varies spatially according to a pattern; and

a phosphor material supported by the surface of the first layer,

wherein sidewalls of the light-emitting device are substantially devoid of the phosphor material, and the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

22. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region, a surface of the first layer being configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer, the surface of the first layer having a dielectric function that varies spatially as a pattern; and

a phosphor material configured so that light generated by the light-generating region that emerges via the surface of the first layer interacts with the phosphor material so that light that emerges from the phosphor layer is substantially white light,

wherein a ratio of a height of the light-emitting device to an area of the light-emitting device is sufficiently small enough for the white light to extend in all directions, and the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

23. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region, and a first layer supported by the light-generating region, a surface of the first layer being configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

a first sheet comprising a material that is substantially transparent to light that emerges from the light-emitting device; and

a second sheet comprising a phosphor material, the second sheet being adjacent the first sheet,

wherein the light-emitting device is packaged, and the first and second sheets form a portion of the package for the light-emitting device, and the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

24. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region,

wherein:

a surface of the first layer is configured so that light generated by the light-generating region can emerge from the light-emitting device via the surface of the first layer;

the surface of the first layer has a dielectric function that varies spatially according to a pattern;

the pattern is configured so that light generated by the light-generating region that emerges from the light-emitting device via the surface of the first layer is more collimated than a Lambertian distribution of light; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

25. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein:

the surface of the first layer has a dielectric function that varies spatially as a pattern, and at least about 45% of a total amount of light generated by the light-generating region that emerges from the light-emitting device emerges via the surface of the light-emitting device; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

26. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein:

the light-emitting device has an edge which is at least about one millimeter long, and the light-emitting device is designed so that an extraction efficiency of the light-emitting device is substantially independent of the length of the edge of the light-emitting device; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

27. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein:

the light-emitting device has an edge which is at least about one millimeter long, and the light-emitting device is designed so that a quantum efficiency of the light-emitting device is substantially independent of the length of the edge of the light-emitting device; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

28. (Original) A light-emitting system including a light-emitting device that comprises:

a multi-layer stack of materials including a light-generating region and a first layer supported by the light-generating region so that, during use of the light-emitting device, light generated by the light-generating region can emerge from the light-emitting device via a surface of the first layer,

wherein:

the light-emitting device has an edge which is at least about one millimeter long, and the light-emitting device is designed so that a wall plug efficiency of the light-emitting device is substantially independent of the length of the edge of the light-emitting device; and

the light-emitting device is configured so that, when light generated by the light-generating region emerges from the light-emitting device via the surface of the first layer, the light can emerge from the light-emitting system.

29. (Previously presented) The light-emitting system of claim 1, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

30. (Previously presented) The light-emitting system of claim 16, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

31. (Previously presented) The light-emitting system of claim 17, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

32. (Previously presented) The light-emitting system of claim 18, wherein the surface of the layer of n-doped material has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

33. (Previously presented) The light-emitting system of claim 19, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

34. (Previously presented) The light-emitting system of claim 20, wherein the surface of the first layer has features with a size of less than about λ/5, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

35. (Previously presented) The light-emitting system of claim 21, wherein the surface of the first layer has features with a size of less than about λ/5, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

36. (Previously presented) The light-emitting system of claim 22, wherein the surface of the first layer has features with a size of less than about λ/5, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

37. (Previously presented) The light-emitting system of claim 23, wherein the surface of the first layer has features with a size of less than about λ/5, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

38. (Previously presented) The light-emitting system of claim 24, wherein the surface of the first layer has features with a size of less than about λ/5, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

39. (Previously presented) The light-emitting system of claim 25, wherein the surface of the first layer has features with a size of less than about λ/5, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

40. (Previously presented) The light-emitting system of claim 26, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

41. (Previously presented) The light-emitting system of claim 27, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer.

42. (New) The light-emitting system of claim 1, wherein the light-emitting system is a liquid crystal display (LCD) system.

43. (New) The light-emitting system of claim 16, wherein the light-emitting system is a liquid crystal display (LCD) system.

44. (New) The light-emitting system of claim 16, wherein the light-emitting system is a projector.

45. (New) The light-emitting system of claim 16, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

46. (New) The light-emitting system of claim 17, wherein the light-emitting system is a liquid crystal display (LCD) system.

47. (New) The light-emitting system of claim 17, wherein the light-emitting system is a projector.

48. (New) The light-emitting system of claim 17, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

49. (New) The light-emitting system of claim 18, wherein the light-emitting system is a liquid crystal display (LCD) system.

50. (New) The light-emitting system of claim 18, wherein the light-emitting system is a projector.

51. (New) The light-emitting system of claim 18, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

52. (New) The light-emitting system of claim 19, wherein the light-emitting system is a liquid crystal display (LCD) system.

53. (New) The light-emitting system of claim 19, wherein the light-emitting system is a projector.

54. (New) The light-emitting system of claim 19, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

55. (New) The light-emitting system of claim 20, wherein the light-emitting system is a liquid crystal display (LCD) system.

56. (New) The light-emitting system of claim 20, wherein the light-emitting system is a projector.

57. (New) The light-emitting system of claim 20, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

58. (New) The light-emitting system of claim 20, wherein the surface of the first layer has a dielectric function that varies spatially according to a pattern.

59. (New) The light-emitting system of claim 58, wherein the pattern is nonperiodic.

60. (New) The light-emitting system of claim 58, wherein the pattern is periodic.

61. (New) The light-emitting system of claim 58, wherein the pattern is complex periodic.

62. (New) The light-emitting system of claim 20, wherein the pattern has a lattice constant and a detuning parameter with a value greater than zero.

63. (New) The light-emitting system of claim 21, wherein the light-emitting system is a liquid crystal display (LCD) system.

64. (New) The light-emitting system of claim 21, wherein the light-emitting system is a projector.

65. (New) The light-emitting system of claim 21, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

66. (New) The light-emitting system of claim 22, wherein the light-emitting system is a liquid crystal display (LCD) system.

67. (New) The light-emitting system of claim 22, wherein the light-emitting system is a projector.

68. (New) The light-emitting system of claim 22, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

69. (New) The light-emitting system of claim 22, wherein the pattern is nonperiodic.

70. (New) The light-emitting system of claim 22, wherein the pattern is periodic.

71. (New) The light-emitting system of claim 22, wherein the pattern is complex periodic.

72. (New) The light-emitting system of claim 22, wherein the pattern has a lattice constant and a detuning parameter with a value greater than zero.

73. (New) The light-emitting system of claim 23, wherein the light-emitting system is a liquid crystal display (LCD) system.

74. (New) The light-emitting system of claim 23, wherein the light-emitting system is a projector.

75. (new) The light-emitting system of claim 23, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

76. (New) The light-emitting system of claim 23, wherein the surface of the first layer has a dielectric function that varies spatially according to a pattern.

77. (New) The light-emitting system of claim 76, wherein the pattern is nonperiodic.

78. (New) The light-emitting system of claim 76, wherein the pattern is periodic.

79. (New) The light-emitting system of claim 76, wherein the pattern is complex periodic.

80. (New) The light-emitting system of claim 23, wherein the pattern has a lattice constant and a detuning parameter with a value greater than zero.

81. (New) The light-emitting system of claim 24, wherein the light-emitting system is a liquid crystal display (LCD) system.

82. (New) The light-emitting system of claim 24, wherein the light-emitting system is a projector.

83. (New) The light-emitting system of claim 24, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

84. (New) The light-emitting system of claim 24, wherein the pattern is nonperiodic.

85. (New) The light-emitting system of claim 24, wherein the pattern is periodic.

86. (New) The light-emitting system of claim 24, wherein the pattern is complex periodic.

87. (New) The light-emitting system of claim 24, wherein the pattern has a lattice constant and a detuning parameter with a value greater than zero.

88. (New) The light-emitting system of claim 25, wherein the light-emitting system is a liquid crystal display (LCD) system.

89. (New) The light-emitting system of claim 25, wherein the light-emitting system is a projector.

90. (New) The light-emitting system of claim 25, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

91. (New) The light-emitting system of claim 25, wherein the pattern is nonperiodic.

92. (New) The light-emitting system of claim 25, wherein the pattern is periodic.

93. (New) The light-emitting system of claim 25, wherein the pattern is complex periodic.

94. (New) The light-emitting system of claim 25, wherein the pattern has a lattice constant and a detuning parameter with a value greater than zero.

95. (New) The light-emitting system of claim 26, wherein the light-emitting system is a liquid crystal display (LCD) system.

96. (New) The light-emitting system of claim 26, wherein the light-emitting system is a projector.

97. (New) The light-emitting system of claim 26, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

98. (New) The light-emitting system of claim 27, wherein the light-emitting system is a liquid crystal display (LCD) system.

99. (New) The light-emitting system of claim 27, wherein the light-emitting system is a projector.

100. (New) The light-emitting system of claim 27, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

101. (New) The light-emitting system of claim 28, wherein the light-emitting system is a liquid crystal display (LCD) system.

102. (New) The light-emitting system of claim 28, wherein the light-emitting system is a projector.

103. (New) The light-emitting system of claim 28, wherein the light-emitting system is a vehicle lighting system, a general lighting system or a system configured for medical applications.

104. (New) The light-emitting system of claim 28, wherein the surface of the first layer has features with a size of less than about $\lambda/5$, where λ is a wavelength of light that can be generated by the light-generating region and that can emerge from the light-emitting device via the surface of the first layer